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FEDERAL - STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS
for

**Montana and Northern Wyoming
Upper Missouri, Upper Columbia and
Yellowstone Rivers**

By
Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Montana Agricultural Experiment Station

In cooperation with the U. S. Forest Service, U. S. Geological Survey, National Park Service, U. S. Bureau of Reclamation, State Engineers of Montana and Wyoming and other Federal, State and local organizations.

As of
MAR. 1, 1952



FEDERAL-STATE COOPERATIVE SNOW SURVEYS

AND

IRRIGATION WATER FORECASTS

FOR

MONTANA and NORTHERN WYOMING

Upper Missouri and Upper Columbia River
Basins

Report Prepared
by

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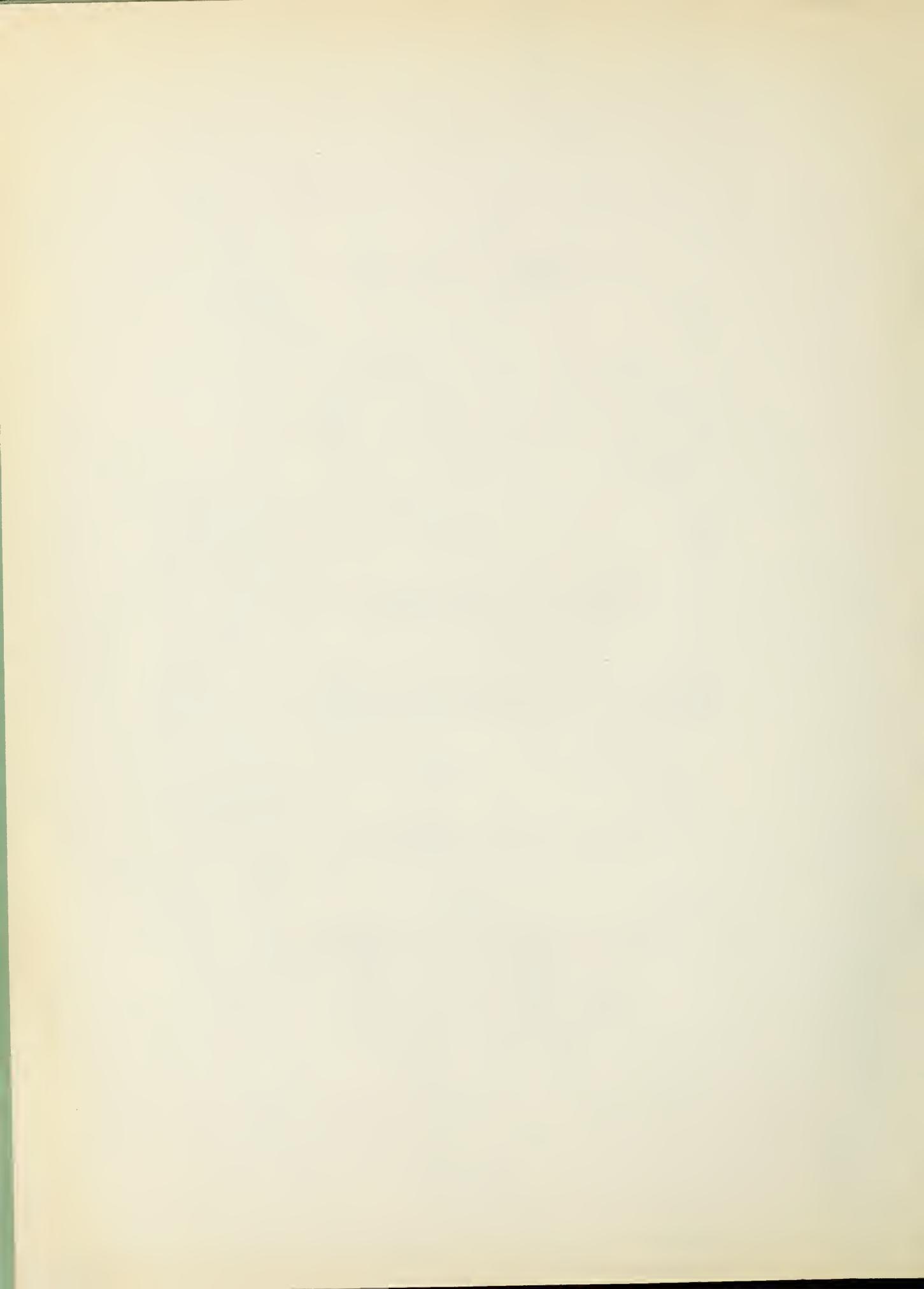
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Division of Irrigation
Soil Conservation Service

and

Montana Agricultural Experiment Station
Bozeman, Montana



IRRIGATION WATER SUPPLY OUTLOOK
FOR SEASON 1952
AS OF MARCH 1, 1952

JEFFERSON RIVER: March 1 snow surveys on the Jefferson River indicate a GOOD water supply for this season. In general, not as good as last year but slightly better than average for the past five years. Some areas will have to depend on summer rains to some extent. The Red Rock Creek area is in excellent shape. The Ruby River Basin should yield a good supply with a fine cover of low elevation snow. The Horse Prairie and Big Hole areas are lower than the other two, but still have a good supply of water in storage in the snowpack.

MADISON RIVER: Snow surveys at Hebgen, West Yellowstone and 21-Mile courses indicate an excellent water supply to come from this stream. Yellowstone Park snow survey courses indicate an abundant supply from that area.

GALLATIN RIVER: The four snow survey courses reflecting the spring runoff from this basin show extremely high water contents. Higher than last year, and higher than the past five years. The usual late summer shortage will be felt because of lack of storage upstream.

MISSOURI MAIN STEM: The main stem of the Missouri below Three Forks will carry an excellent supply of water. Snow surveys in the headwaters are good, and those measurements on tributaries downstream are high, except the Sun and Teton. The Big Belt and Snowie Mountains have a fine snowpack this season--considerably above average.



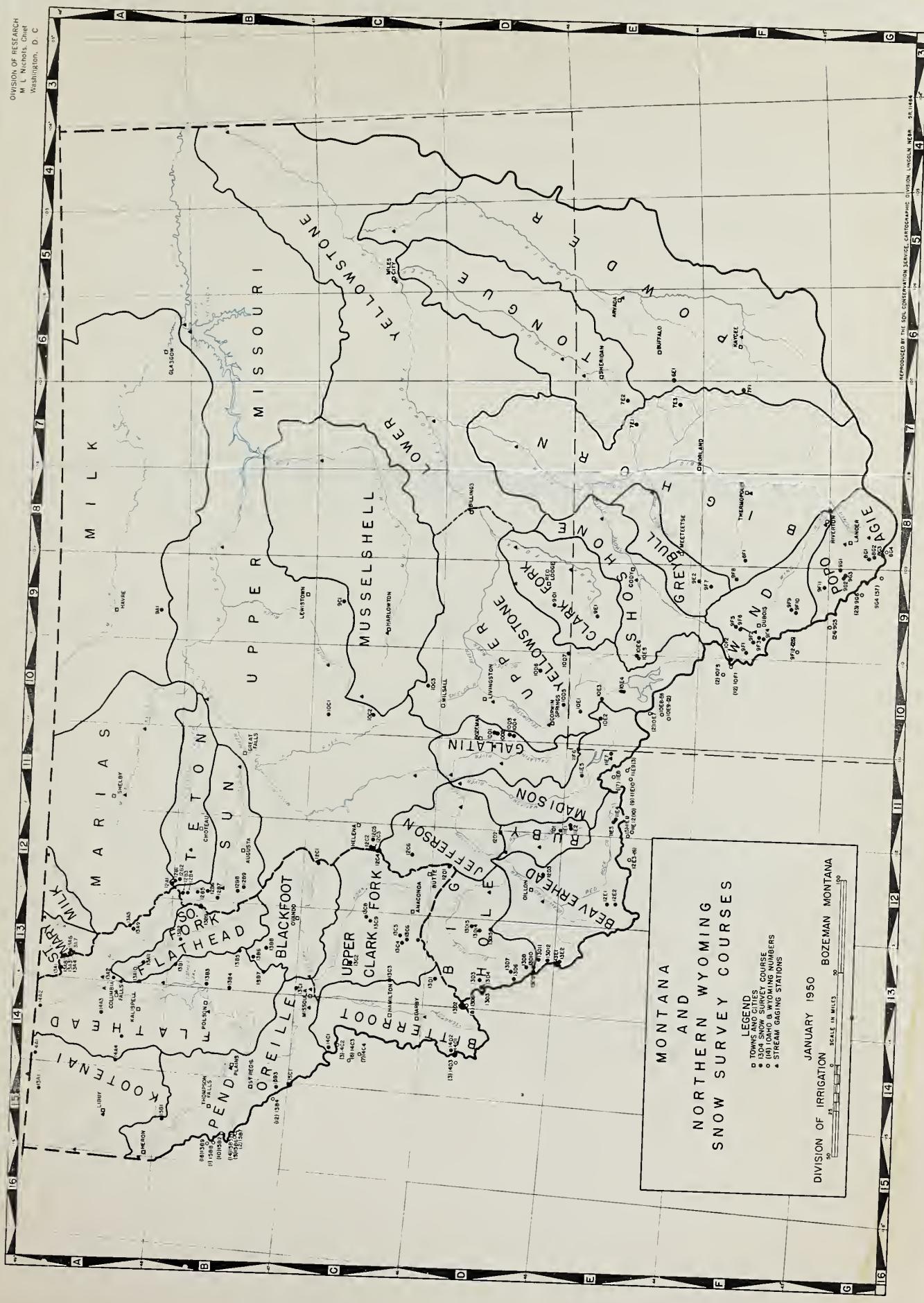
SUN AND TETON RIVERS: Snow surveys made on these two stream basins, on or about the first of March, indicate a shortage of water content below the average, or about 90% average on the Sun, and 80% average on the Teton. Snow accumulations during March should be watched and storage precautions should be taken to insure an ample supply of irrigation water during the summer months.

UPPER YELLOWSTONE RIVER: Snow surveys made through Yellowstone Park at Canyon, Cook City, Lake and Mammoth indicate an excellent water supply stored in the snowpack in this area. The courses average about 147% average--all higher than the past 4 years. The Shields River Basin has a good supply of snow water to come and a good supply of low elevation snow for this time of year.

LOWER YELLOWSTONE RIVER (WYOMING): The Popo Agie River at the extreme southern portion of the basin has an excellent supply of snow water averaging about 150% average. The Wind River, just to the north and west of Riverton, is short of water this season. This basin did not recover from the shortage reported in February and snow accumulations should be watched rather closely during March. This basin is about 79% average. Preliminary plans should be made to increase storage shortly after April 1, if precipitation is short during March. The Owl Creek and Grey Bull Creek areas are a little short this season, as indicated by the March 1 snow surveys. Owl Creek runs about 90% average and Grey Bull Creek about 97% average, from the short records available. The Shoshone River, above Buffalo Bill, is in good shape with about 120% average indicated by the two snow survey courses. On the Tongue and Powder Rivers, only a few courses are available for comparison, and from these data it would appear that there is a good water supply to come from these two basins; about 105% average.

COLUMBIA RIVER BASIN: (in Montana) The Flathead River Basin has a good supply of snow for this coming season as indicated by the March 1 snow surveys. Although somewhat spotted in its' percentages above average, the snowpack in general is about 106% average. This is not as large as last season. The Clark Fork River is a little higher in percent of average for the first of March, running about 140% average. Only one snow survey course was measured on the Bitterroot River at Gibbons Pass, which showed 144% average.





INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

Drainage Basin and Course Name	Location						Measuring Dates ^a	Measured By ^b	Location												
	Montana Number	Sec.	Lat.	Range	Record Began	Measuring Dates ^a			Montana Number	Sec.	Lat.	Range	Record Began	Measuring Dates ^a							
JEFFERSON RIVER (ROCK-BEAVERTHEAD)																					
Lakeview Ridge	11E3	7400	27	14S	2W	1948	3,4,5	9	Beavers Mill	998	8900	6	43N	102E							
Lakeview Canyon	11E4	6930	26	14S	2W	1948	3,4,5	9	Owl Creek	872	8700	36	43N	101E							
Lincklin	12E2	6950	5	15S	9W	1948	3,4	1	Tensleep R.S.	723	8300	30	49N	86W							
White Pine Ridge	12E1	8850	18	14S	9W	1948	3,4	1	Timber Creek	922	8800	25	47N	103E							
(HORSE FAIRIES)																					
Bloody Dick	13D16	7600	12	8S	16W	1948	3,4	1	Ranger Creek	761	8800	32	53N	88W							
Gold Stone	13D9	8100	11	8S	16W	1948	3,4	1	Wood River	997	8000	28	46N	103E							
Lemhi Pass	13E1	7480	9	10S	15W	1948	3,4	1	(SHOSHONE RIVER)												
Terrall Creek	13D12	6650	14	9S	15W	1948	3,4	1	East Entrance	1056	7000	17	52N	109W							
Trail Creek	13E2	7090	15	10S	15W	1948	3,4	1	Sylvan Pass	1055	7100	12	52N	110W							
Salway Junction	13D11	6800	27	8S	15W	1948	3,4	1	(TONGUE RIVER)												
(BIG HOLE)																					
Big Hole Pass	13D3	7440	28	3S	18W	1948	3,4	1	Big Goose	782	7700	4	53N	86W							
Big Hole Pass (Below)	13D4	6900	24	3S	18W	1948	3,4	1	Burgess Ranger Sta.	724	7800	36	56N	89W							
East Boundary	13D5	6700	22	3S	17W	1948	3,4	1	Boise Lake	757	8800	11	53N	87W							
Gibbons Pass	13D2	7200	4	25	19W	1934	2,3,4,5	1,2	Lodgepole	931	8200	32	56N	106W							
Jahneke Creek	13D8	7340	25	7S	16W	1948	3,4	1	(POWDER RIVER)												
Miner Forks	13D6	7300	24	6S	17W	1948	3,4	1	North Powder	788	8500	5	47N	85W							
Miner Lake	13D7	6720	10	6S	16W	1945	3,4,5	1	Muddy Pass	787	9700	11	48N	85W							
(MISS RIVER)																					
Anderson Mdw.	12B14	7000	18	3S	12W	1948	3,4	1	Soldier Park	756	8700	36	51N	85W							
Elk Horn	13D15	8450	15	4S	12W	1934	3,4,5	2	Sour Dough	621	8500	17	49N	84W							
Wise River	13D13	6300	15	2S	12W	1948	3,4	1	Red Fork	761	7000	18	43N	85W							
(RUBY RIVER)																					
Cottonwood	11E2	5900	24	10S	3W	1948	3,4	1	(KOOTENAI RIVER)												
Cottonwood (Upper)	11E1	8200	30	10S	2W	1948	3,4	1	Barree Mountain	1581	6000	1	25N	31W							
Flashlight	12D3	6950	22	8S	7W	1945	3,4,5	1	Blue Bird Basin	1441	6800	24	37N	26W							
Tomato Root	12D2	6900	13	4S	3W	1948	3,4	1	Red Mountain	1541	6000	4	36N	29W							
Vigilante	11D1	6125	28	9S	3W	1948	3,4	1	(PLATEAU RIVER)												
MADISON RIVER																					
Hebgen	11B5	6550	22	11S	3S	1934	1,2,3,4,5	2	Basin Creek	1381A	5000	11	19N	12W							
West Yellowstone	11B7	6700	34	13S	3S	1934	1,2,3,4,5	2	Big Creek	1383	6750	667	22N	18W							
Norris Basin	10B2	7500	44°-44'	110°-42'	1935	3,4,5	2,6	Brush Creek	1441	5000	13	30N	26W								
GALLATIN RIVER																					
Devil's Slide	10D4	8100	14	5S	6E	1935	3,4,5	2,6	Cattle Queen	1341	4700	7	35N	17W							
Hood Mountain	10D3	6600	22	4S	6E	1934	3,4,5	2,6	Desert Mountain	1342	5600	24	31N	19W							
Mystic Lake	10D2	6600	30	3S	7E	1935	2,3,4	6,7	Halliepage Divide	1443	5770	35	32N	22W							
New World	10D1	6700	24	3S	6E	1939	2,3,4,5	6,7	Hulbrook	1343	4530	18	21N	13W							
21-Mile	11B6	7350	1	11S	5S	1934	1,2,3,4,5	2	Limestone	1442	4500	7	37N	21W							
MISSOURI RIVER MAIN STEM																					
Chessman Reservoir	10C5	6200	2	8N	54	1936	1,2,3,4,5	2	Limestone Pass	1388	2000	28	18N	12W							
Crystal Lake	9C1	6300	24	12N	17S	1941	3,4	1	Logan Creek	1445	4300	34	30N	24W							
Gold Hopper	10C2	7000	19	9N	85	1938	3,4	1	Marias Pass	1345	5250	340	30N	11W							
Kings Hill	10C1	7950	35	13N	75	1937	3,4,5	2	Snow Lab.	1349	5200	15	29N	14W							
Picnic Grounds	12C6	6500	22	5N	6W	1940	2,3,4	3	Spotted Bear Mt.	1382	7000	23	25N	15W							
Pipestone Pass	12D1	7200	11	1N	7W	1938	2,3,4,5	1	Strawberry Lake	1340	6500	11	28N	19W							
Stample Pass	12C1	6900	16	13N	7W	1934	3,4,5	2	Trinkus Lake	1381	6500	9	25N	17W							
Ten Mile Creek, Lower	12C2	6250	13	8N	6W	1935	1,2,3,4,5	2	Trot Lake #2	1382	3600	21	28N	17W							
Ten Mile Creek, Middle	12C3	6800	13	8N	6W	1934	1,2,3,4,5	2	Upper Holland Lake	1385	7000	28	20N	16W							
Ten Mile Creek, Upper	12C4	8000	19	8N	5W	1935	1,2,3,4,5	2	Twin Creeks	1381	3580	14	26N	16W							
(TETON RIVER)																					
Freight Creek	12A1	6000	13	26N	10W	1948	3,4	1	Quintonkoo	13813	3800	11	26N	17W							
Waldrum Creek	12B2	5600	16	25N	9W	1948	3,4	1	(UPPER CLARK FORK)												
West Fork	12E1	6000	6	25N	9W	1948	3,4	1	El Dorado Mine	10C9	7800	23	8N	12W							
(SUN RIVER)																					
Bench Mark	12B8	5500	9	20N	10W	1948	3,4	1	Gold Creek Lake	1328	7200	14	8N	12W							
Cabin Creek	12B6	5100	33	23N	10W	1949	3,4	1	Intake	1204	6650	6	5N	13W							
5-Ball	12B9	5600	36	20N	10W	1948	3,4	1	North Fork Jocko	1387	6330	3	17N	17W							
Gates Park	12B5	5100	31	24N	10W	1949	3,4	1	Picnic Grounds	1226	6500	22	5N	6W							
Goat Mountain	12B7	7000	20	22N	10W	1934	3,4	2	Pipestone Pass	1201	7200	11	1N	7W							
My Lake	12B9	7300	21	23N	12W	1950	3,4	1	Rainy Lake	1386	4300	11	18N	16W							
Wrong Creek Ridge	12B3	6800	17	25N	10W	1949	3,4	1	Slide Rock Mountain	1302	7100	26	10N	16W							
Wrong Creek	12B4	5700	32	25N	10W	1949	3,4	1	Southern Cross	13C5	6500	9	5N	13W							
(MARIAS RIVER)																					
Marias Pass	13A5	5250	34	30N	14W	1936	1,2,3,4,5	2	Stample Pass	13C1	6900	16	13N	7W							
Show Lab. #16	13A9	5200	15	29N	14W	1947	1,2,3,4,5	2	Storm Lake No. 2	1207	7780	19	4N	13W							
(MTLK RIVER)																					
Rocky Boy	9A1	5200	15	28N	16E	1941	3,4	7	Stuart Mill	1306	6500	19	5N	13W							
(MUSSELMHELL RIVER)																					
Grasshopper	10C3	7000	19	9N	8E	1938	3,4	1	Stuart Mountain #1	13C1	7400	6	14N	18W							
UPPER YELLOWSTONE																					
(Wind River) Wyoming	10P2	9200	23	44N	10W	1939	2,3,4,5	12	Coyote Hill	13H0	4200	12	18N	16W							
Brookside Creek	9P5	8800	15	43N	10W	1948	2,3,4,5	12	(ST. MARY RIVER)												
Dimmocks Creek	9P10	10000	9	38N	10W	1948	2,3,4,5	12	East Fork Ranger Sta. 1301	5100	16	2N	17W								
Dry Creek	9P9	9500	34	4N	10W	1948	2,3,4,5	12	Gibson Pass #6	1302	7100	14	19W	10E							
DuNair	9P2	8750	27	42N	10W	1940	2,3,4,5	12	Mad Creek Feature	14C1	16000	24	11N	21W							
Geyser Creek	9P3	8500	12	41N	10W	1948	2,3,4,5	12	Nesperos Pass	11C6	5580	18	23W	13W							
Hoback	9P2	10000	22	39	14W	1940	2,3,4,5	12	Nesperos Pass	11C1	6575	32	28W	16W							
Little Warm	9P4	9500	24	41N	10W	1948	2,3,4,5	12	Skalhane Summit	13C3	7259	30	6W	17W							
Mosquito Park R.S.	9P3	9500	23	39	14W	1940	2,3,4,5	12	(SASKATCHEWAN RIVER BASIN)												
Popo Agie River	8P2	9500	23	31N	10W	1939	2,3,4,5	12	Ioseberg Lake	13A3	6000	189-501	113°-12°	1922	5	2,8					
Rocky Mountain	8P4	9200	19	30N	10W	1936	2,3,4,5	12	Piegans Pass #1	13A4	5000	189-161	113°-10°	1922	5	2,8					
Larsen Creek	9P4	9000	12	30N	10W	1948	2,3,4,5	12	Piegans Pass #6	13A6	6500	189-161	113°-12°	1922	5	2,8					
Sawmill Glade	8P1	8500	3	31N	10W	1939	2,3,4,5	12	Mount Allen #7	13A7	7000	189-141	113°-10°	1922	5	2,8					
South Pass	8P3	9000	13	30N	10W	1939	2,3,4,5	12	Ptarmigan #6	13A8	5800	189-501	113°-12°	1922	5	2,8					

STORAGE IN RESERVOIRS OF MONTANA, MARCH 1, 1952

MISSOURI RIVER BASIN

Reservoir Volumes in 10,000's acre feet

RESERVOIR	Location on or Diversion from	Usable Capacity	Contents This Yr. Mar. 1 1952	Contents Last Yr. Mar. 1 1951	Mar. 1 10-Year Average 1941-1950
Lake Sewall	Missouri	37.8	18.9	19.3	30.3
Hauser Lake	Missouri	62.5	46.3	57.2	49.5
Ft. Peck Res.	Missouri	19,000.0	11,690.0	12,430.0	929.6
Ruby Res.	Ruby	38.8	--		
Willow Lake Res.	Willow Cr.	17.8			
Hebgen Lake	Madison River	345.0	264.4	230.8	237.5
Ennis Lake	Madison River	41.0	35.1	35.2	35.0
Gibson Res.	N. Fk. Sun River	105.0	66.3	81.4	59.8
Willow Creek	N. Fk. Sun-Willow Cr.	32.3	24.0	23.8	12.2
Pishkun Res.	N. Fk. Sun River	32.0	23.3	18.9	17.4
Lower Two Medicine L.	Two Medicine River	14.0			
Four Horns Res.	Badger Creek	20.0			
Swift Reservoir	Birch Creek	30.0	23.1	28.1	22.2
Lake Francis Res.	Birch Creek	112.0	93.6	93.5	80.8
Ackley Lake	Judith River	5.8			
Durand Res.	N. Fk. Musselshell	7.0			
Dead Man Basin	Musselshell River	52.5			
Martinsdale Res.	So. Fk. Musselshell	23.1			
Fresno Res.	Milk River	127.2	90.3	65.9	144.4
Nelson Res.	Milk River	66.8	38.5	15.7	29.2
Mystic Lake	W. Rosebud Creek	20.8	8.2	8.7	8.8
Cooney Res.	Red Lodge Creek	27.5			
Tongue Res.	Tongue River	73.9			
Sherburne Lake Res.	Swiftcurrent Creek	66.1	18.3	8.4	9.9

YELLOWSTONE RIVER BASIN (Wyoming)

Buffalo Bill	Shoshone	456.6	237.0	295.6	269.9
Boysen Res.	Wind River	819.8	122.0		
Pilot Butte	Wind River	30.1	9.3	8.4	14.3
Bull Lake	Wind River	155.0	66.6	89.5	54.1

COLUMBIA RIVER BASIN

Georgetown Lake	Flint Creek	31.0	23.4	23.0	23.2
E. Fk. Rock Cr. Res.	E. Fk. Rock Creek	16.0			
Nevada Creek Res.	Nevada Creek	12.6			
W. Fk. Bitterroot Res.	W. Fk. Bitterroot	31.7			
Como Lake	Rock Creek	34.8	12.6	19.9	11.9
Hungry Horse Res.	So. Fk. Flathead	3,000.0	67.8		
Lower Jocko Lake	Jocko Cr.	7.6			
Flathead Lake (Sommers)	Flathead River	1,791.0	730.1	920.7	696.0
Little Bitterroot	Little Bitterroot*	36.1	36.1	34.8	11.6
Dry Fk. Res.	Dry Fork Creek*	6.7	4.1	4.4	1.9
Mission Valley Res.	Mission Valley(Flathead)	98.6	34.6	49.8	35.3

*Comprise two reservoirs on Dry Creek

*Comprise two reservoirs on Little Bitterroot River

**Comprise eight small reservoirs on Mission Valley Project Indian Reclamation Service



PRECIPITATION DATA FOR MARCH 1, 1952
MONTANA

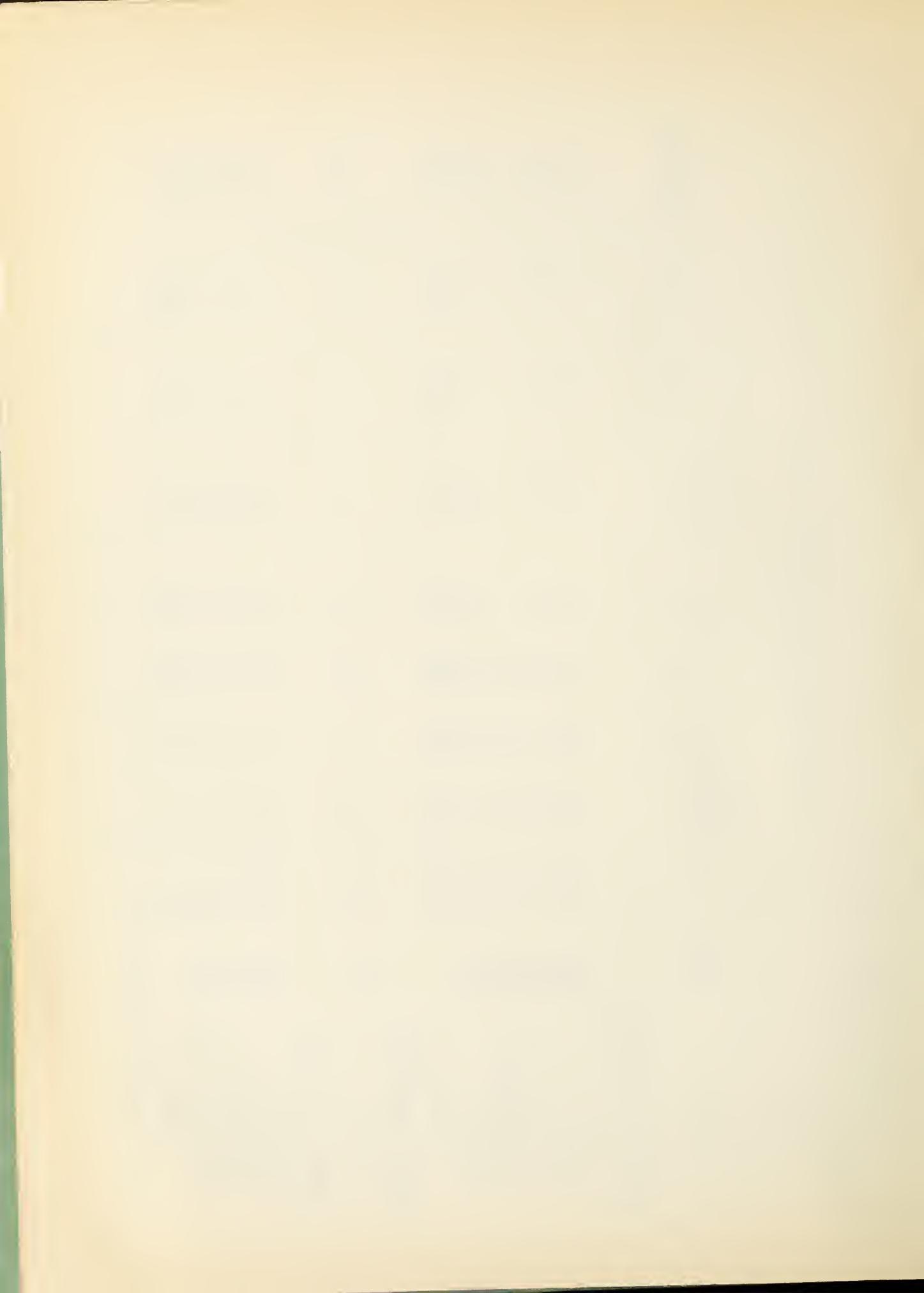
Station	Elev- ation	1951			1952			1952			Dept. from Normal	Accumulated Precipitation
		Oct.	Nov.	Dec.	Jan.	Feb.	*	1951-52	Normal	Departure		
<u>WEST OF DIVIDE</u>												
Fortine	3000	3.63	.92	2.49	1.39	0.79	-	-	9.22	6.84	2.38	
Butte (Airport)	5533	0.96	.40	1.18	.29	0.85	.41	3.68	2.19	.19		
Phillipsburg	5280	.63	.66	2.12	.26	0.98	.21	4.65	4.05	.60		
Hamilton	3529	1.14	.77	1.41	.31	0.94	.19	4.57	3.97	.60		
West Glacier	3154	4.92	2.25	4.25	2.51	1.29	-	15.22	13.45	1.77		
Summit (Maries)	5213	6.20	3.20	4.65	4.35	2.15	-	20.55	14.26	6.29		
Ovando 1 SW	4101	1.57	1.37	2.08	.71	0.93	-	6.66	7.45	-	.79	
Trout Creek	2485	6.50	3.11	4.74	3.81	2.30	-	20.46	16.72	3.74		
Thompson Falls	2435	3.29	2.16	1.89	.82	1.17	-	9.33	9.64	-	.31	
Average (8)		3.15	1.74	2.79	1.63	1.27	-	10.47	8.76		41.71	
<u>CENTRAL DIVISION</u>												
Babb	4300	2.91	.24	1.49	.25	0.89	.07	5.78	4.87	.91		
Havre	2488	1.00	.25	1.02	.42	0.81	.31	3.50	3.12	.38		
Great Falls (Airport)	3664	1.72	.41	1.06	.34	1.63	1.06	5.16	5.37	1.79		
Helena (Airport)	3893	.79	.31	1.08	.15	0.56	.17	2.89	2.48	.41		
Lewistown (Airport)	4132	1.68	.67	1.50	.39	0.78	.01	5.02	2.27	2.75		
Livingston	4485	3.74	.48	1.05	1.08	1.00	.46	7.00	3.65	3.35		
Wisdom	6058	1.74	.57	1.50	.19	1.06	.53	4.79	3.75	1.04		
West Yellowstone	6669	3.66	1.66	3.83	3.34	1.75	-	14.24	10.50	3.74		
Mystic Lake	6558	3.58	.75	1.66	1.22	1.30	.22	8.51	6.68	1.83		
Average (9)		2.21	.59	1.53	.85	1.09	.24	6.32	4.52		11.80	
<u>EASTERN DIVISION</u>												
Malta	2255	.92	.03	.46	.41	0.69	.32	2.51	2.44	.07		
Ft. Peck	2180	.53	.27	.55	.17	1.06	.79	2.58	2.15	.43		
Medicine Lake	1962	4.9	.07	.27	.22	0.48	.16	1.53	1.99	.46		
Circle	2428	.73	.22	-	-	-	-	-	-	-		
Billings #2	3139	.86	.16	.55	.19	0.48	.06	2.24	3.60	-1.36		
Miles City	2392	.69	.46	1.14	.42	0.92	.43	3.63	3.25	.38		
Glendive	2076	.63	.38	.60	.25	1.23	.81	3.09	2.75	.34		
Broadus	3026	1.78	.64	.79	.14	0.63	.22	3.98	3.04	.91		
Average (8)		.83	.28	.62	.27	.78	.36	2.79	2.71	.05		

* Note: Figures without a minus sign (-) are plus

PRECIPITATION DATA FOR MARCH 1, 1952
NORTHERN WYOMING

Station	Elev- ation	1951 Precipitation			1952			Dept. from Normal	1951-52 Normal	Accumulated Precipitation Departure
		Oct.	Nov.	Dec.	Jan.	Feb.				
<u>BIG HORN RIVER BASIN</u>										
Cody	4984	1.14	0.39	0.30	0.35	0.35	+0.04	2.48	2.16	+0.32
Lovell	3825	1.09	0.12	0.39	0.22	0.17	-0.10	1.99	1.88	+0.11
Worland	4061	0.31	0.09	0.10	0.41	0.19	-0.06	1.10	1.93	-0.83
Sunshine	4 SW	6930	1.82	0.16	0.18	0.07				
Thermopolis	4336	0.93	0.28	0.29	0.13	1.13	+0.75	2.76	2.95	-0.19
Riverton	4954	0.67	0.09	0.25	0.05	0.47	+0.24	1.53	2.21	-0.71
Dubois	6917	0.21	0.12	0.53	0.35	0.38	-0.04	1.62	2.47	-0.85
Average		0.89	0.18	0.29	0.24	0.45	+0.09	1.91	2.27	-0.36
<u>TONGUE RIVER BASIN</u>										
Sheridan	1,021	1.37	0.15	0.68	0.15	1.39	+0.69	3.74	3.89	-0.15
<u>POWDER RIVER BASIN</u>										
Arvada	3680	0.58	0.18	0.45	0.05	0.50	+0.17	1.76	2.61	-0.85
Metz Ranch	5280	0.95	0.11	0.19	0.12	0.30	-0.13	1.67	2.63	-0.96
Gillette	4542	1.06	0.50	0.40	0.40	0.50	+0.05	2.86	3.43	-0.57
Nine Mile Creek	5000	0.49	0.35	0.18	0.30	0.77	+0.47	2.09	2.50	-0.41
Mid West	4850	0.41	0.16	0.78	0.03	0.66	+0.16	2.04	3.31	-1.27
Average		0.70	0.26	0.40	0.15	0.46	+0.05	2.08	2.90	-0.82

* Note: Figures without a minus sign (-) are plus







MONTANA SNOW SURVEYS MARCH 1, 1952



MISSOURI BASIN	DRAINAGE BASIN AND	SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Water Content (Inches)	Average Data Mar. 1	Average on Apr. 1	%Avg.	%Avg. on Apr. 1
<u>LOWER YELLOWSTONE</u> (Wind River - above Div. Dam)											
Brooks Lake #3	10F2	9200	Feb. 29	74	25.1	29.6	27.2	20.0	125	24.3	16
Burroughs Creek	9F6	8800	Feb. 29	41	10.5	23.0	16.0	13.5	60	20.1	4
Du Noir	9F2	8750	Feb. 28	30	6.6	10.5	11.6	9.6	70	10.5	12
Geyser Creek	9F3	8500	Mar. 1	29	6.8	11.3	10.1	8.4	69	11.4	4
Little Warm	9F4	9500	Mar. 1	54	15.0	24.3	21.4	16.2	73	24.5	4
Sheridan	9F1	7500	Feb. 28	31	7.3	11.6	7.6	10.0	112	7.2	16
T-Cross Ranch	9F5	8000	Feb. 29	22	4.9	11.2	7.0	7.9	75	6.2	12
*Togwotee Pass	9F1	9600	Mar. 3	78	25.9	32.4	—	28.9	90	28.7	3
Dinwoodie	9F10	10000	Mar. 2	44	12.2	17.5	14.5	10.6	14.2	18.1	4
Dry Creek	9F9	9500	Mar. 2	27	5.9	8.6	9.0	5.9	7.8	10.1	4
Hobbs Park	9G2	10000	Feb. 25	60	19.7	16.4	23.7	19.7	99	23.8	4
Mosquito Park	9G3	9500	Feb. 25	34	7.9	5.8	9.8	10.0	7.3	108	9
St. Lawrence	9F11	9000	Feb. 27	30	8.1	14.5	7.8	8.7	6.1	133	9
Trout Creek	9G1	8400	Feb. 25	28	6.6	2.9	14.5	9.0	5.5	120	9
*Kendall	9F12	7900	Mar. 1	35	9.2	14.8	—	12.5	10.5	88	4
*Loomis Park	10F5	8500	Mar. 1	56	17.1	22.0	—	17.6	14.6	117	9
*Black Rock	10F3	8600	Mar. 3	65	19.8	25.8	—	22.6	88	10.5	4
*Yellow Jacket	10F5	6775								21.6	92
<u>POPO AGIE RIVER</u> Blue Ridge											
Grannier Meadows	8G2	9500	Feb. 23	50	10.4	14.5	16.4	16.3	9.5	11.2	13
Larsen Creek	8G4	9000	Feb. 23	56	16.6	13.5	17.4	17.3	15.7	14.8	16
Sawmill Glade	9G4	9000	Mar. 1	38	9.5	15.7	17.3	13.1	6.1	18.4	4
South Pass	8G1	8500	Feb. 23	34	8.0	4.2	8.1	10.2	6.1	7.6	13
MULLIGAN PARK	8G3	9000	Feb. 23	54	16.8	13.8	18.0	15.9	11.1	13.9	13
Dutch Joe	9G5	8900	Mar. 1	38	10.2	15.7	10.2	9.4	10.6	10.5	11
	9G6	8700	Mar. 1	38	—	—	—	—	—	6.9	136



MONTANA SNOW SURVEYS MARCH 1, 1952

MISSOURI BASIN
DRAINAGE BASIN
AND
SNOW COURSE **

No.	Elev.	Survey 1952	Date of Survey 1952	Snow Depth (In.)	Mar. 1 1952	Past Records 1950 1951	Water Content (Inches)			Average on Mar. 1 Avg.	Average on Apr. 1 Avg.	%Ave. s	
			Mar. 1 1952	5.8	5.5		8.1	7.7	6.9	7.1	82	8.6	
			Mar. 1 1952	5.5	5.5		5.8	5.8	5.0	5.7	97	6.7	
<u>BIG HORN RIVER</u> (Wyoming)													
Beavers Mill	9F8	8000	Mar. 3	31	5.8	5.5	8.1	7.7	6.9	7.1	82	8.6	4
Owl Creek	8F1	8700	Mar. 2	28	5.5	5.0	5.5	5.8	6.0	5.7	97	6.7	4
Timber Creek	9E2	9000	Mar. 4	22	5.5	4.1	5.5	4.1	7.5	5.7	97	5.6	4
Wood River	9E7	8000	Mar. 5	18	5.2	5.2	5.2	5.2	5.2	5.7	97	5.7	10
<u>SHOSHONE RIVER</u>													
East Entrance	10E6	7000	Feb. 29	44	13.0	14.5	5.8	9.6	14.4	9.9	131	14.6	4
Sylvan Pass	10E5	7100	Feb. 29	47	14.5	15.0	14.5	14.5	15.7	13.1	111	14.3	10
<u>TONGUE RIVER</u>													
Burgess Junction	7E4	7900	Mar. 4	37	10.3	11.2	11.2	11.2	11.2	11.2	110	11.2	2
Big Goose	7E2	7700	Mar. 4	22	4.6	2.2	4.6	4.6	2.2	2.2	110	4.3	16
Dome Lake	7E5	9000	Mar. 5	26	5.6	4.4	5.6	5.6	4.4	4.4	110	6.6	3
<u>POWDER RIVER</u>													
North Powder	7E8	8500	Mar. 4	35	7.4	6.2	6.2	6.2	6.2	6.2	109	8.8	2
Soldier Park	7E6	8700	Mar. 4	19	3.6	4.1	3.6	3.6	4.1	3.6	95	5.2	2
<u>CHEYENNE RIVER</u> (South Dakota)													
Upper Spearfish	1 S. D.	6500	Feb. 27	30	8.4	2.0	9.4	5.1	168	6.6	130	9	



MONTANA SNOW SURVEYS MARCH 1, 1952

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Survey 1952	Date of Survey 1952	Snow Depth (In.)	Mar. 1 1952	Water Content (Inches)			Average Data Mar. 1 1949	%Avg.	Avg.	Y e a r s A v g.
							Past Records						
							1951	1950	1949	Avg.	%Avg.	Avg.	
KOOTENAI													
Brush Creek	14A4	5000	Feb. 29	43	11.9	11.0	14.0	17.0	13.3	9.0	12.0	99	
Fernie	Canada	3500	Feb. 28	30	9.5	10.3	9.3	7.6	7.8	125	7.8	122	
New Fernie	Canada	4100	Feb. 27	46	13.9	14.3	--	--	--	--	--	14	
Fernie Ridge	Canada		Feb. 27	67	22.1	--	--	--	--	--	--	2	
Ferguson	Canada	3000	Feb. 29	48	15.5	--	--	--	--	--	--	1	
Kimberley	Canada	3800	Mar. 1	33	9.0	10.4	9.2	7.2	6.3	125	5.3	173	
Marble Canyon	Canada	5000	Feb. 29	48	13.6	22.6	14.9	12.0	14.9	92	15.0	91	
Nelson Creek	Canada	3050	Feb. 29	52	18.1	16.9	13.3	20.2	12.8	--	13.5	6	
Red Mt. Montana	15A1	6000	Feb. 29	56	16.7	19.9	20.2	18.7	15.7	106	18.4	13	
Sinclair Pass	Canada	4500	Feb. 29	24	5.6	9.3	6.0	3.7	5.4	104	4.9	91	
Smith Creek	16A1	4800	Mar. 1	49	16.1	15.9	15.6	12.7	12.9	125	16.2	114	
Sullivan Mine	Canada	5100	Mar. 1	28	6.4	10.3	9.6	8.0	9.1	71	9.5	7	
Upper Elk River	Canada	4400	Mar. 1									5	
BITTERROOT													
Gibbons Pass	13D2	7100	Feb. 28	75	25.6	23.8	25.2	26.2	17.7	14	22.8	112	
UPPER CLARK FORK													
Coyote Hill	13B11	4200	Feb. 28	43	13.7	--	--	--	--	--	--	1	
Chessman Res.	12C5	6200	Mar. 1	23	5.7	3.1	3.4	7.1	4.3	133	4.6	124	
Intergard	13C4	6150	Feb. 29	31	8.4	8.1	5.9	10.6	5.8	140	8.3	98	
North Fork Jocko	13B7	6330	Mar. 1	104	37.4	40.0	45.0	37.4	35.8	105	39.6	95	
Pipestone Pass	12D1	7200	Feb. 29	30	4.9	5.3	1.8	6.9	4.1	120	5.7	96	



MONTANA SNOW SURVEYS MARCH 1, 1952

COLTMBIA BASIN DRAINAGE BASIN AND SNCW COURSE **	No.	Elev.	Survey 1952	Date of Survey 1952	Snow Depth (In.)	Mar. 1 1952	Water Content (Inches)						
							Past Records		Mar. 1 1951	1950	1949	Avg.	
UPPER CLARK FORK (cont'd)							1951	1950	1949	Avg.	%Avg.	Avg.	
Reiny Lake	13B6	4200	Feb. 28	50						11.0	11.9	122	
Stemple Pass	13C1	6900	Feb. 28	47	11.5	14.3	10.3	8.0	15.0	9.5	126	6	
Stuart Mill	13C6	6500	Feb. 29	31	7.4	6.2	5.5	8.9	15.1	6.7	110	17	
Picnic Grounds	12C6	6500	Mar. 1	26	6.2	5.0	2.5	6.3	16.0	4.2	148	8	
Southern Cross	13C5	6500	Feb. 29	34	9.1	5.5	2.6	6.4	212	5.0	181	17	
Tennile, Lower	12C2	6250	Mar. 2	31	7.2	6.6	5.4	8.1	129	6.4	113	18	
Tennile, Middle	12C3	6800	Mar. 3	40	10.1	9.7	8.4	11.2	124	10.3	98	19	
Tennile, Upper	12C4	8000	Mar. 3	45	12.9	10.6	13.2	10.5	122	13.2	98	18	
*Lookout	15B2	5250											
FLATHEAD RIVER													
Big Creek													
Brush Creek	13B3	6750	Mar. 4	114									
Desert Mountain	14A4	5000	Feb. 29	43	11.9	14.0	17.0	13.3	90	12.0	101	6	
Hell Roaring Divide	13A2	5600	Feb. 29	52	16.1	16.8	16.8	12.9	125	15.2	106	9	
Limestone Pass	14A3	5700	Feb. 29	83	28.6	26.7	26.7	30.4	94	29.5	97	3	
Logan Creek	13B8	7600	Mar. 1	95	31.1	40.8	48.8	40.5	80	48.9	64	5	
Marias Pass	14A5	4300	Feb. 28	36	8.1	7.8	9.1	10.4	8.9	8.0	101	6	
North Fork Jocko	13B7	6330	Mar. 1	104	18.6	20.2	24.3	20.5	14.8	12.6	107	19	
Rainy Lake	13B6	4300	Feb. 28	50	37.4	40.0	45.0	37.4	35.8	10.5	39.6	12	
Spotted Bear Mt.	13B2	7000	Feb. 29	59	14.5	14.3	13.6	14.3	10.3	11.0	122	6	
Trout Lake #2	13A12	3600	Mar. 4	55	15.6	12.5	7.5	19.3	17.4	9.0	17.2	91	5
Basin Creek	13B14	5000	Mar. 1	35	17.3	23.7	20.7	14.4	19.6	89	20.4	4	2
Holbrook	13B13	4530	Mar. 1	37	10.7	9.5	9.5	--	--	--	--	--	2
Quintonkon	13A13	3800	Mar. 4	53	11.1	9.0	9.0	--	--	--	--	--	2
Twin Creeks	13B11	3580	Feb. 28	41	17.8	12.9	10.7	12.9	10.7	10.7	11.7	--	2

*Adjacent Basin



Federal - State - Private
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